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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,287	10/15/2001	Konrad Zurl	7173	1131

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EXAMINER

DIEP, NHON THANH

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/976,287

Applicant(s)

ZURL ET AL.

Examiner

Nhon T Diep

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/15/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/2/04, 3/16/04, 2/04/01
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 7, 10, 13-16, 18, 20 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawashima et al (US 6,079,862).

Kawashima et al discloses an automatic tracking lighting equipment comprising the same optical tracking system for determining the position and/or orientation of an object provided with at least one marker, using at least two image recording devices for capturing the image of said at least one marker (fig. 14, el. 4a, ab and col. 6, ln 48-50) and at least one succeeding computing device evaluating the images captured by said image recording devices for computing the position and/or the orientation of the object (fig. 14, el. 15a, 155, 14, 6), characterized in that means are provided for retransferring information calculated in said computing device to another computing device and/or at least one said image recording devices (15a-12a-10a) as specified in claims 1 and 13; characterized that computing devices allocated said image recording devices are provided for determining the marker positions in the captured image and that a central computing device is provided for determining the position and/or the orientation of the object, said central computing device is connected to said individual computing devices for transferring image data to said central computing device (fig. 14, el. 5a, 15a, 12a,

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10a, 4a) as specified in claim 2; characterized in that the means for retransferring calculated information include means for retransferring information calculated in said central computing device to a computing device allocated to an image recording device and/or to an image recording device (fig. 14, el. 5a, 15a, 12a, 10a, 4a) as specified in claims 3, 14 and 16; characterized in that the means for retransferring calculated information include the data transfer means for the data transfer from an image recording device to said at least one succeeding computing device (fig. 14, el. 5a, 15a, 12a, 10a, 4a) as specified in claim 5; having at least one lighting device allocated to an image recording device for lighting of reflecting markers characterized in that means are provided for transferring information calculated in a computing device to said lighting device (fig. 14, el. 1) as specified in claim 7; characterized that the means for transferring information to said lighting device include a memory (el. 11) as specified in claim 8; characterized that said lighting device includes light emitting device divided into plurality of segments which can be controlled separately by a control unit (col. 10, ln. 46-60: different viewing planes = different segments = direct results of changing lighting angles) as specified in claim 10; information loaded into the system from outside, which is relevant for the position and/or orientation determination, is retransferred (initial coordination information of lighting device 51 of fig. 18 must be entered by the user (outside information) and that after steps 15a-12a-10a, these information were recalculated and retransferred to 51 again) as specified in claim 15; computer program with program code means for executing all steps of claim 13, when the computer program is executed on a computer or on said at least one computing device; computer

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program product with program code means, which are stored in a computer-readable data carrier, for executing a method of claim 13, wherein reflecting markers are lighted by a lighting device allocated to an image recording device characterized that re-transferred information is used for controlling said lighting device (15a-12a-10a) as specified in claim 18; characterized that the spatial light distribution of said lighting device is controlled (col. 9, ln. 53-64) as specified in claim 20; when the computer program is executed on a computer or on said at least one computing device (col. 18, lines 25-30) as specified in claims 23-24.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al.

The examiner takes Official Notice that the information transfer occurs via Ethernet connections is well known in the pertinent art. And therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to use the well known Ethernet connections for transferring information.

5. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al.

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As applied to claim 18 above, it is noted that Kawashima et al does not particularly disclose characterized in that the luminous power said lighting device is controlled as specified in claim 19. It would have been obvious that for most if not all tracking lighting system, the luminous power or the intensity of the system is fully controlled and therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the tracking system of Kawashima et al by providing a control for the luminous power. Doing so would help to provide different lighting intensities to meet demand for various lighting events.

With regard to claim 22: The examiner takes Official Notice that dimmer light switch is a very common and well known means to control the intensity of any lighting system and because of the heat generated by light, it would have been obvious and wise not to use any light bulk at its maximum luminosity level to prolong the life of the light bulk.

6. Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al, in view of Kusaka et al (US 5,179,407).

As applied to claims 1 and 13 above, it is noted that Kawashima et al does not particularly disclose that the means for retransferring calculated information include a prediction unit which from the calculated tracking results calculates an expected position and/or orientation information for the object as specified in claims 4 and 17. Kusaka et al teaches, in an automatic focusing device provided with tracking means for generating a tracking signal indicating predicting object movement based on plural past focus detection signals of the focus detecting means, and lens driving means for driving a

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phototaking lens based on the tracking signal of said tracking means. It would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Kawashima et al by providing the prediction device for predicting object movement as taught by Kusaka et al. Doing so would help to expedite the tracking process.

**7.** Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al, in view of Mueller (US 6,713,754).

As applied to claims 7 and 18 above, it is noted that Kawashima et al does not particularly disclose that the means for transferring information to said lighting device include a look-up table as specified in claims 9 and 21. Mueller teaches "the amount of light that is emitted by the lighting device is regulated by a control device. The momentary regulator current for the LED arrays 8 is determined in a computer. To calculate these currents, specific values for the photographic paper are used from a look-up table (LUT), which is computed with measurement quantities of a light measuring device (col. 5, ln. 10-15)". And therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Kawashima et al by using look up table as taught by Mueller. Doing so would help to reduce the calculation time.

**8.** Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al, in view of Vassiliou (US 4,987,044).

As applied to claim 7, it is noted that Kawashima et al does not particularly disclose that the lighting device includes beam deflecting device, in particular,

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consisting of diffractive or refractive elements; and that Fresnel prismatic disks represent the refractive elements as specified in claims 11-12. Vassiliou teaches the reducing of the deviation from the reflected incidence of the reflected radiation (col. 7, ln. 23-46). And therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Fresnel prismatic disks as beam deflecting device in the lighting device of Kawashima et al. Doing so would help to maintain constant exposure.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Hashima et al (US 6,713,754) discloses System for and method of recognizing and tracking target mark
- b. Whitright et al (US 5,504,477) discloses a tracking system.
- c. Utke et al (US 5,346,210) discloses an object locator system.
- d. Kita et al (US 5,023,709) discloses automatic follow-up lighting system.
- e. Chiba (US 5,179,047) discloses an automatic focusing device.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T Diep whose telephone number is 703-305-4648. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on 703 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ND  
2/16/2005



NHON DIEP  
PRIMARY EXAMINER